THE OBJECTIVES OF FARM MANAGEMENT COURSES AS TAUGHT IN HIGH SCHOOL CLASSES OF VOCATIONAL AGRICULTURE

by

JOHN HUMPHREY KERR

B. S., Kansas State College of
Agriculture and Applied Science, 1937

A THESIS

submitted in partial fulfillment of the

requirements for the degree of

MASTER OF SCIENCE

KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE

1938

ment
D
2668
T4
1936
K41

TABLE OF CONTENTS

Page

INTRODUCTION 3

STATEMENT OF PURPOSE 3

METHOD OF PROCEDURE 4

CONTENT OF THE COURSE 5

THE QUESTIONNAIRE 14

INTERPRETATION OF DATA SECURED 23

CONCLUSIONS 55

ACKNOWLEDGMENT 58

LITERATURE CITED 59

INTRODUCTION

Since there is an increasing demand for the teaching of farm management in high school courses of vocational agriculture, the author became interested in determining what the objectives of such a course should be and how these objectives are being accomplished by successful teachers.

Much of our teaching has not been conducive to best learning. Past methods of teaching, in many instances, were arrangements of isolated enterprises, not closely woven together, and did not present maximum life likenesses to the learner and therefore maximum child growth. The author has attempted to determine the needs of the pupils and the means of meeting these needs, so as to prepare these young people to take their places in life.

STATEMENT OF PURPOSE

The purpose of this study was to determine:

1. The principal objectives in the teaching of farm management courses in high school classes of vocational agriculture.
2. The relative importance of these objectives.
3. The devices used in accomplishing these objectives in the teaching of farm management.

4. The relative importance of these devices.

5. The requirements that a boy must meet before he is permitted to enroll in a farm management course.

6. The chief difficulties in presenting the study of farm management.

7. The length of period devoted to third year agriculture and the percentage of this time that is spent on farm management.

METHOD OF PROCEDURE

An attempt was made to study the problem of the content of third year vocational agriculture in other states, as well as in Kansas. Letters were sent to the Supervisors in the majority of states in the North Central Region, one in the North Atlantic Region, one in the Southern and two in the Western Region. This gave a fairly widespread sample of programs.

A questionnaire composed of three parts was then set up. Part I, "Objectives of Farm Management Courses", had to do with the ranking of the six major objectives of farm management courses as to their relative importance. Part II, "Objectives of Farm Management Courses and Devices Used to Accomplish These Objectives", dealt with the ranking of the objectives, under the six major divisions, so as to show their relative importance and the rating of the special devices used to accomplish these objectives in the order of their importance. Part III, "Some Problems in Teaching Farm Management", had to do with the requirements a boy must meet before he is permitted to enroll in a farm management course, the chief difficulties in presenting the study of farm management, the safeguards that must be adhered to in the teaching of farm management, and the amount of time devoted to this work.

The questionnaire was sent to one hundred teachers of vocational agriculture in Kansas and eight other states. Replies were received from fifty-two.

CONTENT OF THE COURSE

Most of the states are committed to one of two plans. One is to offer vocational agriculture on a three year basis paralleling each year with a phase of farm mechanics, somewhat as we have done in Kansas; others give two years of vocational agriculture before any farm mechanics is offered. The third year, of course, consists entirely of farm mechanics, while the fourth year consists of farm management. Thus, the farm mechanics work does not parallel the work in production of livestock and crops.

Iowa

The Iowa vocational agriculture program involves the teaching of farm shop work as a separate unit rather than as a part of the units featuring crop and livestock production.

Of the 109 departments last year approximately two offered two years of high school work which is ordinarily crops and animal husbandry, 48 had three years in which farm mechanics is added, and 59 had four years, including the advanced course in farm management.

Iowa operates on a quarter-day plan with approximately 90 minutes given to each class.

Minnesota

Agriculture in Minnesota is given on a three year basis, taking crops, livestock, and occupational guidance work in agriculture I, for the ninth grade. The same line of activity is carried on in agriculture II for the tenth grade, only making it more difficult and requiring a fewer number of enterprises, making them pertinent to the community in which the high school is located. In agriculture III still fewer enterprises are required, but in a much more detailed way and in addition, management, marketing and economics.

Most of the schools offer a third year course and there are a few, say possibly five, that give a fourth year of work.

Most of the schools are giving seven 60 minute periods, or a total of 420 minutes per week to the work.

Missouri

Formerly the organization of vocational agriculture in Missouri was as follows:

Freshman Year: Either animal husbandry or soils and crops for two units of credit. Twenty per cent of the 120 minutes per day was given over to farm shop, work which was a part of the two units of credit. Freshmen and sophomores enrolled for this course.

Sophomore Year: In the sophomore year, there was offered either two units of animal husbandry or two units of soils and crops to freshmen and sophomores. You will see that the courses in animal husbandry or soils and crops were alternated by years and enrolled both freshmen and sophomores. Twenty per cent of the time in the second year was also given to farm shop.

Third Year or Junior Year: During the junior year and senior year, advanced courses consisting of one-half or one unit in any of the following courses was offered to both Juniors and Seniors:

Dairy Husbandry - one-half or one unit
Poultry Husbandry - one-half or one unit
Swine Husbandry - one-half or one unit
Sheep Production - one-half or one unit
Beef Production - one-half or one unit
Farm Economics and Management - one-half or one unit
Horticulture - one-half or one unit
Agricultural Mechanics - one-half or one unit

The courses in the junior and senior years were alternated.

A total of six units in vocational agriculture was offered.

At the present time, however, the vocational agriculture work is being reorganized on the basis of types of farming, rather than in terms of field crops one year and animal husbandry the next. The amount of farm shop work will depend upon the needs of the community.

Ohio

Practically all courses in vocational agriculture in Ohio are on a four year basis except in cases where a teacher spends his time in two schools. According to this plan, the third year is given over to farm engineering, including farm mechanics. Some of the teachers may offer a small amount of farm mechanics work in the first and second years. Eighty-six per cent of the schools offer a third year of agriculture with the same number offering a fourth year.

The length of class period is 90 minutes.

South Dakota

The 90 minute period is the most common and most popular plan in South Dakota. There are schools offering two, three and four years of agriculture. The fourth year was made possible by the inauguration of the 90 minute period.

Shop work is not taught as a separate course. It parallels the first two years' work. The recommendation is that two-fifths of the time be devoted to shop. Most of the schools that offer three and four years of agriculture, offer a third year that covers farm mechanics and management. There is little shop work in this farm mechanics. The recommendation is that anything in the nature of shop work be along the line of gas engines and farm machinery repair.

About eighty-six per cent of the schools offer three years of vocational agriculture and about ten per cent offer four years.

Wisconsin

All of the Departments of Vocational Agriculture in Wisconsin offer a four year course, including plant husbandry the first year, animal husbandry the second, farm mechanics the third, and farm economics the fourth. A number of the schools have a combination of the third and fourth years, so that they alternate subjects. This is also true in a very few cases in the first and second years' work.

The usual length of period is 90 minutes. From reports of 75 of the 109 departments, 60 have 90 minute programs, 14 have hour programs, and one has a combination of the two.

Connecticut

Connecticut, in the North Atlantic Region, has no statewide course of study in agriculture. Enterprises are selected to make up courses of study and emphasis is determined on the basis of a careful survey of the farming in the community, and the needs of the students taking the courses.

A suggested four year program includes:

First Year: 600 to 750 minutes per week.

Operative and managerial training in selected plant production enterprises adapted to the community.

Farm shop repair and construction.

Project planning and study.

Second Year: 600 to 750 minutes per week.

Operative and managerial training in selected animal production enterprises adapted to the community.

Farm shop jobs involving wood, iron, concrete, rope and leather.

Project planning and study.

Third Year: 600 to 750 minutes per week.

Case studies of farms exemplifying the principal types of farming of the community.

Continued study of the major production enterprises in relation to managerial problems encountered in the case studies.

Farm shop related to the major enterprises and to the farm as a whole.

Project planning and study.

Fourth Year: 600 to 750 minutes per week.

Continued study of case farms exemplifying the various types of farm organization of the community, with special emphasis upon farm law, records and accounts, rural economic and social problems, etc.

Farm shop emphasizing water supply systems, lighting systems, plumbing, farm buildings not before considered, etc.

Project planning and study.

Oklahoma

Vocational agriculture in Oklahoma (Southern Region) is set up on the four-year basis. The farm problems, based on a survey of the community is used. The managerial problems are usually emphasized during the third and fourth years of the work. Farm shop and farm mechanics are taught at the time of the year that the teacher sees fit to include them.

Colorado

The Colorado plan suggests the following:

Third Year: 90 to 180 minutes per day.

Intensive study of two or three important enterprises in the field of livestock, crop or fruit production with special emphasis on the economic aspects including jobs pertaining to cooperative marketing, and with emphasis on individual instruction.

Farm mechanics III.

Projects and other forms of supervised practice.

Fourth Year*: 90 to 180 minutes per day.

Individual instruction in farm jobs which will help most in establishing the students in a specific farming occupation.

---

*Schools providing for only three years of instruction in vocational agriculture should make this the third year's work. The content of the courses should vary according to the type of agricultural practices in the community and the supervised practice work of the pupils.

Farm mechanics IV.

Projects and other forms of supervised practice.

Idaho

Practically all of the schools in Idaho offer a year of vocational agriculture without shop in the Freshman year. The work in this year is based largely around the enterprises in which the boys have projects. Sophomores take the second year in agriculture, which does not have farm shop work. The project work serves as a review of the enterprises handled in the Freshman year. Additional farm jobs in the field of farm crops and animal husbandry, including marketing, are handled in this course.

Most of the schools are combining the juniors and seniors into one class and the work is offered for two years. Approximately seventy per cent of the time is devoted to farm mechanics; the remaining part is devoted to project work, live stock judging, seed judging, farm management, and other phases of work that are woven into the course.

These classes are given on a 90 minute basis.

THE QUESTIONNAIRE

Objectives of Farm Management Courses

"Farm management is the study of the organization and operation of a farm business to secure the largest long time income from the business. By organization is meant the combining of land, labor, and capital into a business unit, together with the managerial ability of the operator".
- W. E. Grimes.*

(Please check those six major objectives as to their importance.)

	IMPORTANCE			
	Most	More	Little	No
I. To manage the farm business in an effective manner.				
II. To produce agricultural products efficiently.				
III. To market agricultural products economically.				
IV. To take an intelligent part in the economic, civic and social activities of the community.				
V. To develop and maintain a happy and satisfactory farm home.				
VI. To become established as a successful farmer.				

---

* Personal correspondence, March 1936.

Objectives of Farm Management Courses and Devices Used to Accomplish Those Objectives

For your information the following definitions of terms used in the questionnaire are called to your attention.

A case farm is "a farm typical of the region. It should be an average of the community, not too large, nor too small; but it should carry an average of the principal enterprises found in the locality; should be owned by one man rather than a rented farm; should be as near the school as possible to facilitate communication, since many trips are to be made by the class and instructor to and from the farm".

- Thesis of Mr. A. T. Lewark (1931)
Virginia Polytechnic Institute.

"Supervised farm practice is the project program which the boy carries. This may vary from one to three or four different projects. Those may not furnish all of the skills the teacher would like for him to experience, therefore the supplementary farm practice work may help to give him a broader farm experience. In other words, we usually think of the supplementary farm practice work as including skills that are not necessarily called for in the boys' project programs".

- Lester B. Pollom.*

Cooperative productive projects include class and group projects. "A class project is one in which the entire class participates. A group project is one which is planned, studied, recorded and conducted by a group of boys, instead of by an entire class".

- G. A. Schmidt (1926).

Field trips are outdoor trips to nearby fields, farms or other places to give the student practice or instruction with materials, animals, or objects found in the community.

---

*Personal correspondence, Sept. 1935.

Checking Device

Importance				Devices						
Most	More	Little	No	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive project	Field trips	Others
						Supervised farm practice	Supplementary farm practice			

(Please check the objectives, under the six major divisions, so as to show their relative importance (most, more, little, no). Rate the special devices used to accomplish these objectives in the order of their importance, as 1, 2, 3, etc.).

Questionnaire Content

(Checking device shown on first page only)

I. To manage the farm business in an effective manner.
   1. To determine the type of farming best suited to the student's farm.
   2. To determine what crops to grow and the acreage of each.
   3. To determine what kinds of livestock to keep and the number of each.
   4. To determine the labor requirements and the proper distribution of labor on the farm.
   5. To determine how to lay out the home farm.
   6. To learn to make a critical study of the farm for the purpose of improvement.
   7. To learn when to expand or decrease any particular enterprise.
   8. To learn the value of diversified farming.
   9. To practice thrift.

10. To develop the ability to buy and sell effectively.
11. To decide what equipment is most needed on the farm.
12. To learn to select suitable farm machinery and equipment.
13. To appreciate the value of farm records.
14. To set up useful methods of keeping records.
15. To learn to use credit in farming.
16. To develop the ability to make wise choice of investments.
17. To learn to choose and make wise use of insurance.
18. To decide whether to buy or rent the farm.
19. To develop the ability to judge the value of property including land and livestock.
20.
21.
22.

II. To produce agricultural products efficiently.
  1. To develop the ability to choose, grow and harvest good quality crops.
  2. To develop the ability to select, breed, feed and care for quality livestock.

3. To learn to figure the cost of production.
4. To learn to work out satisfactory farm methods.
5. To learn to detect marginal lands and how to use them.
6.
7.
8.

III. To market agricultural products economically.

1. To market the products raised economically.
2. To learn how to store farm products so they will be in the best market condition.
3. To know how to create and develop market demands for home products.
4. To develop the ability to determine trends in marketing and to meet market demands.
5. To know the reasons back of price trends, cycles, etc., and to interpret these so as to adjust plans to fit these trends.
6.
7.
8.

IV. To take an intelligent part in the economic, civic and social activities of the community.

1. To determine the kind of cooperative organi-

zations needed to meet the problems at hand.

2. To determine the soundness and efficiency of cooperative associations in the community.
3. To develop the ability to serve as an efficient officer in farm organizations.
4. To learn the relationship between the success of other business and success in agriculture.
5. To consider the viewpoint of others.
6. To develop the ability to take an effective part in group activities, exhibits and friendly contests.
7. To develop constructive leadership.
8.
9.
10.

V. To develop and maintain a happy and satisfactory farm home.

1. To appreciate the social advantages of living in a rural community.
2. To develop an appreciation for improved farm conditions and home conveniences.
3. To plan and carry out effectively the improvement of the farm home.
4. To plan and carry out the landscaping of yards

and grounds and the beautification of the farm home.

5.

6.

7.

VI. To become established as a successful farmer.

1. To help the farm boy to get started in farming.
2. To develop confidence and pride in farming as a vocation.
3. To develop the desire to own a farm.
4. To take an active interest in farm activities.
5. To develop the ability to become adjusted to the situations met in the community.
6. To progress with agricultural development.
7. To continue to read and study agricultural publications.
8.
9.
10.

Some Problems in Teaching Farm Management

I. What requirements must a boy meet before he is permitted to enroll in a farm management course?

1.
2.
3.
4.
5.

II. List your chief difficulties in presenting the study of farm management.

1.
2.
3.
4.
5.

III. What are some things you would suggest out of your experience in teaching farm management that should be set up as safe guards that must be adhered to?

1.
2.
3.
4.
5.

IV. What length period do you devote daily to third year agriculture? __________

What per cent of the time devoted to third year agriculture is spent on farm management? __________

Do you teach third year agriculture every year?

____

If you teach third year agriculture in alternate years, what method of alternation do you use?

____

INTERPRETATION OF DATA SECURED

In the questionnaire each teacher of vocational agriculture was asked to check the six major objectives as to their importance (most, more, little, no). Under the second part, they were asked to check the objectives, under the six major divisions, so as to show their relative importance (most, more, little, no) and to rate the special devices used to accomplish these objectives in the order of their importance, as 1, 2, 3, etc. The author realized that not every device that was listed would be used in accomplishing every objective, so where only one choice was made, it was allowed to stand. Under the third part, "Some Problems in Teaching Farm Management", there was a wide range of answers.

The material gathered was compiled on the basis of the number of teachers answering under each heading.

The answers were summarized under the same general headings as they were grouped in the questionnaire.

Objectives of Farm Management Courses

In table 1, it will be noted that 42 teachers ranked the objective, "To manage the farm business in an effective manner", as of "most" importance, 10 ranked it as of "more" importance, while no one said it was of "little" or "no" importance.

The ratings of the objectives, "To produce agricultural products efficiently" and "To market agricultural products economically", are so nearly alike that we may consider them together. Around two-fifths of the teachers called them "most" important, while about one-half said they were of "more" importance. So, it may be presumed that practically all teachers use these objectives in planning their managerial jobs.

The rating of the objective, "To take an intelligent part in the economic, civic and social activities of the community" shows a greater difference of opinion. Ten say it is of "most" importance, 32 of "more", 9 of "little", and one of "no" importance. No doubt those who call it of "little" or "no" importance, consider it a part of rural sociology.

The objectives, "To develop and maintain a happy and satisfactory farm home" and "To become established as a successful farmer" were quite similar in rating. They are of considerable importance in the teaching of farm management.

Table 6. The relative importance of the major objectives in the teaching of farm management courses in high school classes of vocational agriculture.

	IMPORTANCE			
	Most	More	Little	No
I. To manage the farm business in an effective manner.	42	10	0	0
II. To produce agricultural products efficiently.	20	26	4	1
III. To market agricultural products economically.	22	26	3	1
IV. To take an intelligent part in the economic, civic and social activities of the community.	10	32	9	1
V. To develop and maintain a happy and satisfactory farm home.	29	19	4	0
VI. To become established as a successful farmer.	29	19	3	1

Objectives of Farm Management Courses and Devices Used to Accomplish These Objectives.

In the following tables, the objectives were arranged in the order of the percentage of teachers reporting them to be of "most" importance.

Table 1. The per cent of teachers reporting the objectives to be of (most, more, little, least or no) importance.

I. To manage the farm business in an effective manner.	Per cent of teachers reporting			
	Most	More	Little	No
1. To determine the type of farming.	78.9	17.3	3.8	0
2. Appreciate value of records.	59.6	38.5	1.9	0
3. What livestock to keep.	57.7	34.6	7.7	0
4. Determining crops to grow.	55.8	42.3	1.9	0
5. Wise choice of investments.	51.9	36.6	7.7	3.8
6. When to expand or decrease.	48.1	40.4	7.7	3.8
7. Judge value of property.	46.7	48.9	2.2	2.2
8. Practice thrift.	46.1	40.4	13.5	0
9. Critical study of the home farm.	46.1	38.5	15.4	0
10. Methods of keeping records.	46.0	36.0	18.0	0
11. Using farm credit.	40.4	50.0	9.6	0
12. To buy and sell effectively.	40.4	42.3	15.4	1.9
13. To buy or rent a farm.	36.9	50.0	10.9	2.2
14. Value of diversified farming.	30.8	57.5	9.6	1.9
15. Selecting suitable equipment.	30.0	50.0	20.0	0
16. Determine equipment needed.	28.8	57.7	13.5	0
17. To lay out home farm.	28.8	53.9	17.3	0
18. Labor requirements.	19.2	61.6	19.2	0
19. Use of insurance.	4.5	57.8	35.5	2.2

Objectives of Farm Management Courses

I. To manage the farm business in an effective manner.

In table 1, "To determine the type of farming", is the outstanding objective with 78.9 per cent of the teachers listing it as of "most" importance, 17.3 per cent as of "more" importance, and only 3.8 per cent as of "little" importance. In order to be successful, the boys must raise the crops best adapted to their localities and fit these in with other enterprises to make a balanced farm. The types of farming vary widely in different locations in the state and even vary considerably in a community. In many cases, success or failure may depend largely on the type of farming selected.

In the next group, including those which over 50 per cent of the teachers considered of "most" importance, are "To appreciate the value of farm records", 59.6 per cent; "To determine what kinds of livestock to keep and the number of each", 57.7 per cent; "To determine what crops to grow and the acreage of each", 55.8 per cent; and "To develop the ability to make wise choice of investments", 51.9 per cent. In many cases, these mean the success or failure of the entire farm. Fifty five and eight tenths per cent listed "Determining what crops to grow", as "most" important and 42.3 per cent as "more" important. In most communities it is found advisable to raise as much of the feed fed to the animals on the farm as is possible, so as to lessen the expense of buying. Hence it is vitally important to raise those crops which are best adapted and those which will produce the most suitable feed without depriving the soil of its fertility.

Five of the objectives, "To learn when to expand or decrease any particular enterprise", "To develop the ability to judge the value of property", "To practice thrift", "To learn to make a critical study of the farm for the purpose of improvement", and "To set up useful methods of keeping records", are ranked as of "most" importance by from 46.0 per cent to 48.1 per cent of the teachers and of "more" importance by from 36.0 per cent to 48.9 per cent of the teachers.

"To learn when to expand or decrease any particular enterprise" is an important objective, for the importance of different enterprises varies widely at different times - at one time they will pay well, and at another cause losses, necessitating a decrease during the time when the chances for loss are greater.

"To practice thrift" was considered of much importance. It is through this, to a great extent, that the boy can become established as a farmer and acquire or accumulate property of his own. This was considered of "most" or "more" importance by 86.5 per cent of the teachers.

Forty and four tenths per cent said that "Learning to use farm credit" was of "most" importance and 50.0 per cent stated that it was of "more" importance, and only 9.6 per cent considered it of "little" importance.

"To develop the ability to buy or sell effectively" was considered of "most" importance by 50.0 per cent and of "more" importance by 42.3 per cent.

"To decide whether to buy or rent a farm" was considered of "most" importance by 36.9 per cent and of "more" importance by 50.0 per cent of the teachers. This is an important thing to decide, for there are many factors to consider, such as taxes, rates of interest, initial payments and prospects of being able to keep up the payments, if attempting to buy.

Considering the 19 objectives under "To manage the farm business in an effective manner", over 62.0 per cent stated that all of these are either "most" or "more" important. Eighteen of the 19 were considered of "most" or "more" importance by at least 80.0 per cent of the teachers. "To determine the type of farming" was considered of "most" or "more" importance by 96.2 per cent of the teachers replying. The range of percentages for the other objectives lies between these two.

Table 2. The per cent of teachers reporting the objectives to be of (most, more, little or no) importance.

II. To produce agricultural products efficiently.	Per cent of teachers reporting			
	Most	More	Little	No
1. To have quality livestock.	67.3	25.0	5.8	1.9
2. To grow good crops.	67.3	23.1	5.8	3.8
3. To figure cost of production.	57.7	32.7	5.8	3.8
4. To plan farm methods.	30.8	50.0	15.4	3.8
5. Use of marginal lands.	21.1	42.3	30.8	5.8

II. To produce agricultural products efficiently.

In table 2, "To develop the ability to select, breed, feed, and care for quality livestock", was considered of "most" importance by 67.3 per cent and of "more" importance by 25.0 per cent, or a total of 92.3 per cent of the teachers reporting for the two groups.

"To develop the ability to choose, grow and harvest good quality crops" ranked second with 67.3 per cent of "most" importance and 23.1 per cent of "more" importance. Good crops production is quite necessary for profit and this is one of the primary purposes of farming. When crops are good, the farmers have plenty to eat and are able to obtain many of the other necessities for life, but when crops are poor, income is low and living conditions are on a correspondingly low level.

"To learn to figure the cost of production" ranked third with 90.4 per cent of the teachers considering it of either "most" or "more" importance, followed by "To learn to work out satisfactory farm methods" with a total of 80.8 per cent for "most" and "more" importance.

Only 21.1 per cent of the teachers considered the objectives, "To learn to detect marginal lands and how to use them", as of "most" importance and 42.3 per cent of "more" importance.

Table 3. The per cent of teachers reporting the objectives to be of (most, more, little or no) importance.

III. To market agricultural products economically.	Per cent of teachers reporting			
	Most	More	Little	No
1. To determine market trends.	54.9	31.4	9.8	3.9
2. To market crops economically.	51.0	41.2	5.9	1.9
3. To interpret price trends.	39.2	41.2	13.7	5.9
4. To develop market demands.	21.6	33.3	39.2	5.9
5. To learn to store products.	17.7	64.7	13.7	3.9

III. To market agricultural products economically.

In table 3, "To develop the ability to determine trends in marketing and to meet market demands" was considered of "most" importance by 54.9 per cent and of "more" importance by 31.4 per cent of the teachers. This was followed closely by "To market the products raised economically", which was ranked of "most" importance by 51.0 per cent and of "more" importance by 41.2 per cent.

There are many factors to consider in determining market trends and these factors have varying weights under different circumstances, but 86.3 per cent of the teachers consider it as an essential thing to be taught. The marketing of crops often takes a considerable amount of the price obtained for the product, so scaling down the cost of marketing is very necessary in order to leave any margin or profit. Replies indicated that 92.2 per cent of the teachers considered "To market crops economically" as of "most" or "more" importance.

"To know the reasons back of price trends, cycles, etc. and to interpret these so as to adjust plans to fit these trends" was considered of less importance by some teachers, probably because it is a more difficult thing to determine. Many teachers warned against too much price predicting, for it is hazardous when wrong forecasts are made. From the replies received, 80.4 per cent considered it of either "most" or "more" importance.

Although the objectives, "To know how to create and develop market demands for home products" and "To learn how to store farm products so they will be in the best market condition", were not considered of "most" importance by more than about 20.0 per cent of the teachers, the first of these was rated of "more" importance by 33.3 per cent and the latter by 64.7 per cent. The main reason for the low percentage of the latter in the "most" importance column is that this objective should have been rather thoroughly covered in the first or second year's work in vocational agriculture.

Table 4. The per cent of teachers reporting the objectives to be of (most, more, little or no) importance.

IV. To take an intelligent part in the economic, civic and social activities of the community.	Per cent of teachers reporting			
	Most	More	Little	No
1. To take part in activities.	39.2	49.0	11.8	0
2. To develop leadership.	39.2	45.1	11.8	3.9
3. To serve as officers.	25.5	52.9	19.6	2.0
4. Soundness of cooperatives.	25.5	51.0	17.6	5.9
5. View point of others.	23.5	56.9	17.6	2.0
6. To learn relationship of success.	23.5	43.1	27.5	5.9
7. Kind of cooperatives needed.	21.6	45.1	29.4	3.9

IV. To take an intelligent part in the economic, civic and social activities of the community.

In table 4, "To take an intelligent part in the economic, civic and social activities of the community" was considered the "most" important objective in this group with 39.2 per cent designating it as "most" important and 49.0 per cent as "more" important, followed closely by "To develop leadership", which was listed as "most" important or "more" important by 84.3 per cent of the teachers.

Next in order of importance are three objectives, "To develop the ability to serve as an efficient officer in farm organizations", "To determine the soundness of cooperative associations in the community", and "To consider the viewpoint of others". They are of about equal rank with about 78.0 per cent of the teachers classing them as "most" important or "more" important.

"To develop the ability to take an effective part in group activities, exhibits and friendly contests" and "To determine the kind of cooperative organizations needed to meet the problems at hand" are of much less importance than the other five objectives. They are about equal, with a total of 66.6 per cent of the teachers designating them as of "most" importance or "more" importance.

Only 27.4 per cent of the teachers considered "Beautification of farm home" of "most" importance and 54.9 said it was of "more" importance thus making a total of 82.3 per cent who listed it as very important.

Table 5. The per cent of teachers reporting the objectives to be of (most, more, little or no) importance.

V. To develop and maintain a happy and satisfactory farm home.	Per cent of teachers reporting			
	Most	More	Little	No
1. Improvement of farm home.	43.1	51.0	3.9	2.0
2. Improved farm conditions.	41.2	49.0	9.8	0
3. Social advantages of country.	35.3	49.0	11.8	3.9
4. Beautification of farm home.	27.4	54.9	15.7	2.0

V. To develop and maintain a happy and satisfactory farm home.

Under this major objective in table 5, there are two minor objectives, "To plan to carry out effectively the improvement of the farm home", and "To develop an appreciation for improved farm conditions and home conveniences". These are of considerably more importance than the other two. They are of about equal importance, for only 2.0 per cent more teachers considered "Improvement of farm home" "more" important than the objective, "Improve farm conditions". These objectives attempt to bring about the final purpose of farming - trying to raise better and larger crops and to raise and market them economically, so as to leave more with which the farmer can buy comforts and so live on a higher plane. Thus he can maintain a happier and more satisfactory home.

Table 6. The per cent of teachers reporting the objectives to be of (most, more, little or no) importance.

VI. To become established as a successful farmer.	Per cent of teachers reporting			
	Most	More	Little	No
1. To start the boy in farming.	64.7	27.4	5.9	2.0
2. To develop pride in farming.	62.8	19.6	13.7	3.9
3. To read and study.	51.0	43.1	3.9	2.0
4. To progress in agriculture.	41.2	43.1	13.7	2.0
5. To want to own a farm.	29.2	45.1	9.8	5.9
6. Interest in farm activities	35.3	49.0	11.8	3.9
7. To adjust to community.	23.5	51.0	17.7	7.8

VI. To become established as a successful farmer.

In table 6, there is less difference in the importance of the minor objectives under this major objective than in any other group we have considered. From the standpoint of "most" importance, "To help the farm boy get started in farming" is first with 64.7 per cent; "To develop confidence and pride in farming as a vocation" is second with 62.8 per cent and "To read and study agriculture publications" third with 51.0 per cent.

For total per cent of importance as designated by the columns "most" importance and "more" importance, "To continue to read and study agriculture publications" is first with 94.1 per cent, "To help the boy get started in farming" is second with 92.1 per cent. Then comes the group of medium importance including "To progress with agriculture development", "To develop the desire to own a farm", and "To take an active interest in farm activities" all having equal per cent of importance, the total for each being 84.3 per cent.

The objective "To develop the ability to become adjusted to the situations to be met in the community" even ranked at the bottom of the list of seven minor objectives was rated as "most" important by 23.5 per cent of the teachers and of "more" importance by 51.0 per cent, making a total of 74.5 per cent considering it of much importance.

Table 7. The relative importance of the devices used to accomplish the objectives.

I. To manage the farm business in an effective manner.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. To determine type of farming.	1	2	3	5	6	4
2. To determine what crops to grow.	1	2	3	5	6	4
3. What livestock to keep.	1	2	3	5	6	4
4. Labor requirements.	1	2	3	4	6	5
5. To lay out farm home.	1	2	5	3	6	4
6. Critical study of home farm.	1	2	3	5	6	4
7. When to expand or decrease.	1	3	2	4	5	6
8. Value of diversified farming.	3	1	2	5	6	4
9. Practice thrift.	2	5	1	4	3	6
10. To buy and sell effectively.	4	3	1	5	2	6
11. What equipment is needed.	1	2	5	4	6	3
12. Select suitable equipment.	1	2	4	5	6	3
13. Appreciate value of records.	3	2	1	5	4	6
14. Methods of keeping records.	2	3	1	4	5	6
15. Using credit in farming.	4	3	1	5	2	6
16. Wise choice of investments.	3	2	1	5	4	6
17. Use of insurance.	2	1	3	6	4	5
18. To buy or rent a farm.	2	1	3	6	5	4
19. To judge value of property.	4	2	3	5	6	1
Total	38	42	48	90	94	87
Rank	1	2	3	5	6	4

In table 7 the low numbers indicates a higher rank. If "Analysis of student's home farm and equipment" were considered as of first importance as a device in ranking the objective number 1 was placed in the column opposite that objective, or if it was considered third in importance, number 3 was placed opposite the objective in that column. The average ranking of the devices used to accomplish the minor objectives under the major objective "To manage the farm business in an effective manner" would be first, "Analysis of student's home farm"; second, "Case farm studies"; third, "Supervised farm practice"; fourth, "Field trips"; fifth, "Supplementary farm practice", and sixth or last, "Cooperative or productive project".

Table 8. The relative importance of the devices used to accomplish the objectives.

II. To produce agricultural products efficiently.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. To grow good crops.	4	2	1	6	5	3
2. To have quality livestock	2	4	1	5	6	3
3. To figure cost of production.	4	3	1	4	2	6
4. To plan farm methods.	2	3	1	4	5	6
5. Use of marginal lands.	2	1	4	6	5	3
Total	14	13	8	26	23	21
Rank	3	2	1	6	5	4

In table 8 the low score indicates a higher rank. The order of ranking as to importance is as follows:

1. Supervised farm practice.
2. Case farm studies.
3. Analysis of student's home farm.
4. Field trips.

5. Cooperative productive projects.

6. Supplementary farm practices.

It is not surprising that supervised farm practice heads the list because it is by this means that the teacher makes contact with the pupil at the pupil's home where the boy is actually conducting the projects. He can there detect the mistake and make recommendations for more efficient procedure.

Table 9. The relative importance of the devices used to accomplish the objectives.

III. To market agricultural products economically.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. To market crops economically	4	3	1	5	2	6
2. To learn to store products	2	3	1	6	5	4
3. To develop market demands	4	2	1	5	3	6
4. To determine market trends	3	2	1	4	5	6
5. To interpret price trends	3	2	1	4	5	6
Total	16	12	5	25	19	28
Rank	3	2	1	5	4	6

The results from table 9 indicate that supervised farm practice was first in importance as a device in accomplishing all five minor objectives under the major objective, "To market agricultural products economically". "Case from studies" ranks second, "Analysis of home farm" third, "Co-operative productive project" fourth, "Supplementary farm practice" fifth, and "Field trips" sixth.

Table 10. The relative importance of the devices used to accomplish the objectives.

IV. To take an intelligent part in the economic, civic and social activities of the community.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. Kind of cooperatives needed.	3	2	4	6	1	5
2. Soundness of cooperatives.	4	1	5	6	1	5
3. To serve as officers.	5	3	2	4	1	6
4. To learn relationship of success.	4	1	2	5	3	6
5. View point of others.	5	3	2	6	1	4
6. To take part in activities.	6	4	2	5	1	3
7. To develop leadership.	6	3	2	4	1	5
Total	33	17	19	36	10	32
Rank	5	2	3	6	1	4

Methods of ranking devices same as with table 7. The order of ranking of the devices was as follows:

1. Cooperative productive projects.
2. Case farm studies.
3. Supervised farm practice.
4. Field trips.

5. Analysis of student's home farm and equipment.
6. Supplementary farm practices.

Table 11. The relative importance of the devices used to accomplish the objectives.

V. To develop and maintain a happy and satisfactory farm home.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. Social advantages of country.	2	1	4	6	5	3
2. Improved farm conditions.	2	1	4	5	6	3
3. Improvements of farm home.	1	2	5	3	6	4
4. Beautification of farm home.	1	2	5	4	6	3
Total	6	6	18	18	23	13
Rank	1	1	3	3	4	2

From table 11 we find that as a device "Analysis of the student's home farm and equipment" and "Case farm studies" tie for first place in importance, in accomplishing the objective "To develop and maintain a happy and satisfactory farm home". "Field trips" ranked third, "Supervised farm practice" and "Supplementary farm practices" both had the same score or tied for fourth and fifth places while "Cooperative productive projects" ranked last as a device of importance.

Table 12. The relative importance of the devices used to accomplish the objective.

VI. To become established as a successful farmer.	Analysis of student's home farm and equipment	Case farm studies	Individual instruction on farm		Cooperative productive projects	Field trips
			Supervised farm practices	Supplementary farm practices		
1. To start the boy in farming.	2	4	1	3	5	6
2. To develop pride in farming.	2	3	1	5	4	6
3. To want to own a farm.	3	2	1	5	6	4
4. Interest in farm activities.	2	5	1	3	4	6
5. To adjust to community.	2	4	1	5	3	6
6. To progress in agriculture.	5	4	1	2	3	6
7. To read and study.	4	3	1	2	5	6
Total	20	25	7	25	30	40
Rank	2	3	1	3	4	5

From table 12 we find that "Supervised farm practice" is the device which is first in importance in accomplishing all seven of the minor objectives. Since the teacher makes so many contacts through this device it is easy to see how this one would be the most important. "Analysis of student's home farm and equipment" ranks second, followed rather closely by "Case farm studies" and "Supplementary farm practices" which tie for third place. "Cooperative production projects" comes fifth, with "Field trips" ranking in sixth place.

Table 13. The relative importance of the devices used to accomplish the objective.

	Importance							
	1	2	3	4	5	6	Totals	
Analysis of student's home farm and equipment	11	14	7	10	3	2	129	3
Case farm studies	8	20	12	5	2	0	114	2
Supervised farm practice	22	7	8	5	5	0	105	1
Supplementary farm practice	0	2	4	10	22	9	220	4
Cooperative productive projects	5	5	5	6	11	15	229	6
Field trips	1	0	10	11	4	22	221	5

In table 13 a weighted average was obtained. The numbers in the column opposite the device and under the figures 1 to 6 indicates the number of times that device was used as first, second, third, etc. If the device was first it was indicated by 1, if second by 2, etc. The number of times the device was used was multiplied by the number found at the head of the column and the totals obtained. The device with lowest totals was ranked the highest, next to lowest second, etc. The weighted average ranking is as follows:

1. Supervised farm practice.
2. Case farm studies.
3. Analysis of student's home farm and equipment.
4. Supplementary farm practice.
5. Field trips.
6. Cooperative productive projects.

Some Problems in Teaching Farm Management

1. In answer to the question, "What requirements must a boy meet before he is permitted to enroll in a farm management course?", only one teacher reported that a boy must meet no special requirements. Twenty-five teachers stated that he must have satisfactorily completed two years of vocational agriculture. Three required the completion of the first and second year courses or special permission. Sixteen required at least one year of vocational agriculture. Six reported that the better students and the ones who will probably be farmers are encouraged. Eleven required the boy to be a junior or senior, and one said the boy should be at least fifteen years old. One believed lower grade

agriculture not necessary, if the student has a general knowledge of farming.

Thirteen teachers required the student to be a farm boy, while eight said he must have a farm to be used for class work in organization and accounts. Nine required the definite selection of agriculture as a vocation and five said the boy must have demonstrated a proper attitude toward agriculture.

Eleven mentioned a well developed project program and eight required the boy to have the facilities for a good home project program.

Other requirements listed and the number of teachers mentioning them are as follows:

Well developed shop program	1
Records on projects for at least nine months	1
Cooperative spirit	2
Capital invested in agricultural enterprises	2
Inventory and records experience	3
The boy must have demonstrated his ability to farm	1
The boy must have demonstrated his ability to handle and use class work	1

2. The difficulties in presenting the study of farm management and the number of teachers mentioning them are as follows:

Difficulties	No. of Teachers
Shortage of suitable reference material	11
Lack of an organized course of study	7
Lack of time to organize available material	2

Lack of interesting material	5
Too many varied subjects to cover	3
Reliable information is hard to find	1
Obtaining enough practical illustrations	1
Getting concrete teaching material	1
Lack of a suitable text book	2
Proper distribution of time per year	1
Difficulty in securing a good case farm for study	6
Difference in types of farming in the community	1
Inability to get enough figures for farm records	5
Lack of time to go over a year of farm records	1
Boys don't have knowledge of farm costs and returns	1
Lack of records on good farms in the community	1
Lack of records on farms in my region of the state	1
Lack of adequate values in valuating property	1
Immature boys in the class	14
Not enough previous training and experiences	9
Boys not ready to enter into farming	4
To maintain the interest of the weaker student	1
To get the participation of the weaker student	1
Uncertainty of life work	1
Selection of a few wrong students	1
Lack of cooperation from parents	5
Objections of administration to too many units of vocational agriculture	1
Changing established ideas	2
Poor preparation in grade school arithmetic	1
Conflicts in class schedules of students	1
Hard to get the boys interested	3
Having boys on rented farms who do not expect to remain on those farms	2
Subject is different - takes time for the boys to adjust themselves	1
Work has been theoretical	5
Get a set-up that provides student responsibilities	4
Getting boys to think on abstract subjects	1
Develop constructive boy thinking	1
Not enough time to spend with pupils in their home farms during school days	1
Eliminate outside factors that affect farm success	1

Course not offered regularly - depends on enrollment	1
Inadequate project program	4
Lack of resources	1
Too many other activities of students in classes	2
Short class period for field work	1
To keep the enrollment from being too large	1

Shortage of reference material seems to be a quite common difficulty since little collective effort has been made to provide suitable material in bulletin form. Conditions and problems vary so much in different communities that suitable reference material is difficult to get.

Generally the boys in the class are not old enough to take farm management course seriously enough as it will be several years before they are farming for themselves. The boys also have lacked definite training in terms of management of the farm.

3. Things the teachers suggested out of their experience in teaching farm management that should be set up as safeguards that must be adhered to are:

Practice selective enrollment	14
Use more practice than theory	11
Don't be too technical	8
Have well developed project programs	8
Keep close to the boy's projects and home farm	7
Use local data as much as possible	6
Take up only needed and urgent problems and jobs	6
Get your course well outlined	4
Don't use too much text book	3
Make actual trips to study by visual method	3

Present reasons for failures as well as successes	3
Start a farm for yourself and get some practice	1
Don't pry too deep into the home farm of the boy	2
The student should desire to farm	2
Use a good text	3
Study actual farm records	1
Make a rotation plan for the home farm	2
Figure the right amount of livestock,etc., for farm	1
Study cooperative marketing in detail	1
Plan a reorganization of the home farm	2
Have some definite farm to manage	1
Give thorough farm management foundation previous to supervised farm practice	1
Get your course well outlined before the class - early in the year	1
Make your assignments real and difficult	1
Do jobs in shop that require skill	1
Have close cooperation with other teachers in social sciences, science and English	1
Insist upon class room contributions from each student	1
Have every class member a chairman of one or more F.F.A. committees	1
Require regular attendance at and participation in F.F.A. meetings	1
Teach the proper use of credit	1
Encourage live stock production	1
Have each student keep a farm account book on his Home farm	5
Teach practical community and individual farm management	1
Use case studies	4
Have plenty of available material	2
Keep records of prices of livestock and grains so as to learn how to determine trends and cycles	1
Prevent antagonism when studying organization	1
Be conservative in making changes in farm management	1
Get the student to realize the importance of the study of farm management	1
Avoid over-enthusiasm on various phases and ideas	1
Have lots of reading and discussion on current topics	1

Organize a balanced course 1

Case study has been quite common in Virginia and some of the other eastern states but the teachers in our state have had difficulty in obtaining suitable case forms to use.

Good texts suitable for farm management are rather scarce since conditions vary so much in different parts of the state.

4. The length of period devoted to third year agriculture ranged from 45 minutes to 180 minutes per day. The following table shows the distribution:

Length of period in minutes	No. of teachers
45	3
48	1
60	8
80	1
90	9
110	1
120	13
135	1
154	1
160	3
180	9
135 to 180	1
1 hr. daily for 2 yr.	1

Where the periods are short the work is quite definitely limited. The most common length period is 120 minutes and the length give an opportunity for wider range of work and more variety as considerable laboratory work may be arranged for when the periods are that long. The period which ranks second in frequency is the 180 minute period which is the most common in Kansas where we have vocational half day.

The percentage of this time that is spent on farm management ranged from 15 per cent for the longer periods to 100 per cent for the shorter periods. This is shown in the following table:

Percentage of time	No. of teachers
-	1
15 per cent	1
20 per cent	1
20 - 40 per cent	1
25 per cent	1
25 - 50 per cent	1
30 per cent	1
33 1/3 per cent	8
33 1/3 - 50 per cent	1
50 per cent	17
50 - 75 per cent	1
54 per cent	1
60 per cent	5
66 2/3 per cent	2
75 per cent	4
100 per cent	6

Nine teachers have third year agriculture every year and 43 do not.

When third year agriculture is offered in alternate years, 23 teachers alternate the second and third year courses and 13 alternate the third and fourth year courses. Two alternate the first and second years and the others have indefinite methods of alternation.

CONCLUSIONS

Results from this study show that "To determine the type of farming" is the objective of outstanding importance under the major objective "To manage the farm business in an effective manner". Also the outstanding device in accomplishing the objectives under this major objective is, "Analysis of the student's home farm and equipment".

According to the weighted average importance of the devices in accomplishing the objectives, "Supervised farm practice" ranks first followed fairly close by "Case farm studies" as second, and "Analysis of student's home farm and equipment" is third. There is a wider spread in importance between these three and last three devices in the group. "Supplementary farm practices" ranks fourth, being only one point ahead of "Field trips" which ranks fifth in importance. "Cooperative productive projects" ranks sixth but was only eight points behind fifth place.

Some of the chief difficulties in presenting the study of farm management were as follows:

Shortage of suitable reference material.
Lack of an organized course of study.
Inability to get enough figures for farm records.
Difficulty in securing a good case farm for study.
Immature boys in the class.
Boys have not had enough previous training and experience.

Lack of cooperation from parents.
Inadequate project program.
Difficulty in putting management lessons into practice.

Some requirements which the boy must meet before being permitted to enroll in farm management courses:

Twenty five teachers stated that the boy must have satisfactorily completed two years of vocational agriculture. Sixteen required at least one year of vocational agriculture. Six reported that the better students and the ones who will probably be farmers are encouraged. Eleven required the farm boy to be a junior or a senior in high school.

Thirteen teachers required the student to be a farm boy while eight said he must have a farm to be used for class work in organization. Nine teachers require the definite selection of agriculture as a vocation and five said the boy must have demonstrated a proper attitude toward agriculture.

Some of the things most frequently mentioned that should be set up as safe guards in teaching farm management are:

Practice selective enrollment.
Use more practice than theory.
Have well developed project program.
Keep close to the boy's project and home farm.
Use local data as far as possible.
Take up only the urgent and needed problems and jobs.
Get course well outlined.

The length of period devoted to third year agriculture ranged from 45 minutes to 180 minutes per day. Those most frequently mentioned were: 60 minutes by eight, 90 minutes by nine, 120 minutes by thirteen, and 180 minutes by nine. The percentage of time spent on farm management was from 15 per cent to 100 per cent for the shorter periods. Most teachers devoted one-third to one-half of this time to management.

Nine teachers have third year agriculture every year and 45 do not. When third year agriculture is offered in alternate years, 23 teachers alternate the second and third year courses and 13 alternate the third and fourth year courses. Two alternate the first and second years and the others have indefinite methods of alternation.

ACKNOWLEDGMENT

Acknowledgment is made of the valuable help and advice in making this study given by the following persons: Dr. C. V. Williams, Professor of Vocational Education, Kansas State College, Manhattan, Kansas; Professor L. F. Hall, Department of Vocational Education, Kansas State College, Manhattan, Kansas; Dr. W. E. Grimes, Department of Agricultural Economics, Kansas State College, Manhattan, Kansas; Mr. Lester B. Pollom, State Supervisor of Vocational Agriculture, Topeka, Kansas; Professor G. A. Schmidt, Department of Agricultural Education, State Agricultural College, Fort Collins, Colorado; Professor B. C. Gentry, Dean, Division of Teacher Training, Connecticut State College, Storrs, Connecticut; and Professor Edmund C. Magill, Department of Agricultural Education, Virginia Polytechnic Institute, Blacksburg, Virginia.

LITERATURE CITED

Angerer, C. L., and others.
Plan of reorganization for vocational agriculture in Missouri. 35 p. not dated.

Bard, Forrest C.
A method of determining courses of study in vocational agriculture based on an analysis of the business of selected farmers in Kentucky. Fed. Board for Voc. Educ. Monograph No. 6. 22 p. June, 1929.

Dippold, G. J.
A basis for a proposed course of study in agricultural economics and farm management for departments of vocational agriculture in Missouri. Mo. State Board for Voc. Educ. Bul. No. 25. 103 p. 1934.

Eaton, Theodore H.
Principles in making the vocational course of study in agriculture in the high schools, rev. ed. Voc. Educ. Bul. No. 98. 17p. 1934.

Fleenor, B. H.
Adult education in agriculture...Through evening schools conducted by departments of vocational agriculture. Kans. State Board for Voc. Educ. and Div. of Extension. 114 p. June 1932.

Gentry, C. G.
The teaching of farm management in all-day schools. Agr. Educ. Vol. 6, No. 9, 131-134. March 1934.

Hawkins, L. S.
Agricultural education...Organization and administration. Fed. Board for Voc. Educ. Bul. No. 13, 65 p. May 1930.

Lowark, A. T.
A course of study in managing a farm. Dept. of Agr. Educ. V.P.I., Dept. Mimeo. No. 21. 136 p. October 1931.

Magill, Edmund C., and Grosseclose, Henry C.
Teaching farm business readjustment. Dept. Agr. Educ. V.P.I. Dept. Mimeo. No. 24. 52 p. November 1932.

National Committee of the Americal Vocational Association.
Training objectives in vocational education in agriculture...With suggestions as to ways and means of attaining these objectives. Fed. Board for Voc. Educ. Bul. No. 153. 31 p. May 1931.

Pearson, James H., and Holmes, C. L.
Reorganizing the individual farm business. A teaching procedure to be followed in evening agricultural schools. U. S. Dept. of the Interior, Office of Educ. Monograph No. 13, 27 p. October 1935.

Pearson, James H., and Mann, L. B.
Organization and teaching procedure to be followed in evening agricultural schools on the marketing of livestock. Fed. Board for Voc. Educ. Monograph No. 10. 16 p. June 1931.

Schmidt, G. A.
Projects and the project method in agricultural education. p. 256. 1926.

Schopmeyer, C. H.
Analysis of the management of a farm business. Managerial training content of the type jobs of a farm as a business unit, rev. ed. Fed. Board for Voc. Educ. Bul. No. 63. 27 p. June 1930.

State Board for Vocational Education.
Plans for vocational education in Kansas. Bul. No. 6 44 p. 1924.

State Board of Education.
Vocational education in Connecticut...Plans for administration of the Smith-Hughes and George Reed acts. Voc. Bul. No. 1, Series 1932-33.

Williams, Arthur P.
The conference procedure in teaching vocational agriculture. Use of the conference in agricultural evening classes, rev. ed. Fed. Board for Voc. Educ. Bul. No. 147. 53 p. 1932.

Williams, C. V.
Fundamentals involved in the organization and conduct of vocational agricultural schools and classes. Topeka Kansas State Printing Plant. 130 p. May 1925.